

## LIFESTYLES

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### Let it blow 🌬️

Prince Edward Island's patriarch of wind energy Malcolm Lodge of Charlottetown looks back on more than 30 years in the breeze business

**MARY MACKAY**

The Guardian

Wind is in. And for internationally recognized wind pioneer Malcolm Lodge of Charlottetown, it's been a long time coming.

"The time for wind energy came with the first Arab oil embargo (in late 1973), when it became evident that energy was such a big part of the economy of everybody.

"(Before that) energy was only a big thing in the economy of the (oil) producing countries because they were rolling in it and were earning good returns," says Lodge, who has more than 30 years of wind energy engineering to his career credit.

All paths have led to this point at which he is president and chief technical officer of the P.E.I.-based Entegry Wind Systems Inc. (EWSI), a somewhat fledgling company that has soared onto the wind turbine systems market with sales jumping from two turbines in its inaugural year in 2004 to more than 100 this year, mostly to the United States and Europe.

And with projections of more than 200 for next year, a staff of 35 on P.E.I., a satellite office in Boulder, Col., and resellers agencies in the U.S. and Europe, it certainly seems as if the time for wind energy truly has come.

Born in the wind-buffed town of Borden on March 16, 1939, Lodge spent much of his early childhood living in British Columbia and Quebec because his father was in the Canadian Navy.

At the age of 10, his family returned to Borden.

"My father was an engineer, but he chose to live in (his native) Prince Edward Island and work in a small town. He was never enamoured with big cities. Although he'd often visit big cities and live in them for a short while, for lifestyle purposes he liked small towns, it seems, and I'm the same way," Lodge says.

Lodge was educated at Prince of Wales College, Mount Allison University in New Brunswick and the Nova Scotia Technical College.

He briefly considered a career in medicine, but it was the challenging design, developmental and scientific aspect of things that captured his imagination most. So he earned his bachelors and masters in electrical engineering.

Lodge started out as a sonar engineer at the HMC Dockyard in Halifax in 1962 and then moved on to Canadian Westinghouse Co. in Hamilton, Ont., where he designed and developed electronic systems for anti-submarine weapons and later automatic controls for industrial tools and systems. He authored several patents for industrial control systems at this time.

In 1969, a job advertisement in the Globe and Mail eventually brought him back to home turf.

"Then somewhat of a chip off the old block, I saw an opportunity to move back to Prince Edward Island to teach at Holland College. And two weeks later I (and my family were) here," he says.

He was an electronics instructor at Holland College from 1969 to 1976, but midway through this seven-year teaching position, the worldwide oil crisis hit hard, causing an energy crunch the likes of which the world had not seen before. However, Lodge and others like him were sure the crisis would never completely finish.

"I had an opportunity during that period to begin to be concerned about the energy future of Prince Edward Island. But then it became ever more of a concern to me globally that energy was the major part of the environmental problem on the earth, both from an availability point of view to sustain our society and industry and from an environmental point of view of damaging the globe," he remembers.

The opportunity then arose to become part of the alternative energy research and development team at the newly formed Institute of Man and Resources (IMR). This non-profit institute was formed by the federal and provincial governments to research, develop and demonstrate systems for alternative energy and resource self-sufficiency.

"Wind energy technology was very embryonic then and it captured by interest . . . My role with the institute was to manage the wind projects, the wind energy R&D (research and development) and other projects," Lodge says.

One of the most significant of these projects was the development in 1980 of the Atlantic Wind Test Site at North Cape, which he designed, developed and managed for 10 years.

"It's known worldwide as one of the best facilities in the world," Lodge says of the facility, which is now known as the Wind Energy Institute of Canada.

During this period, Lodge also pioneered the development of wind-diesel technology in co-operation with researchers from around the world who also recognized the potential for using wind turbines to reduce the consumption of expensive diesel fuel in remote communities where electricity is generated with small diesel generator sets.

IMR was disbanded and closed in the late 1980s.

At that point, Lodge formed Island Technologies Inc., an independent wind energy and electrical engineering design-consulting firm that had projects around the world.

Then one day in 2002 another opportunity came knocking. It was a group of investors from the Vermont-based Atlantic Orient Corporation, a small wind turbine manufacturer that was failing.

They asked if he would step in as president and general manager, which he did.

In 2003, the company was reorganized and moved to Prince Edward Island with support from the provincial and ACOA through repayable loans.

In November 2004, Entegritty Wind Systems was created to take over the assets of Atlantic Orient, with Lodge as president and general manager, ushering in a new chapter in his 30-plus year career that was born with the virtual birth of wind power in this country.

"Malcolm Lodge was one of the first proponents of wind energy and the development of a wind energy industry in Canada," says Robert Hornung, president of the Canadian Wind Energy Association, of which Lodge was the founding president.

"When Malcolm became the founding president of the Canadian Wind Energy Association, wind energy had no presence in Canada and there was only limited development globally.

"The fact that wind energy is now considered a mainstream energy source, the use of which is growing exponentially in Canada and around the world, owes a tremendous amount to individuals like Malcolm who believed in Canada's wind energy potential long before wind energy was taken seriously by Canada's governments and utilities."

Hornung adds that while Lodge was a pioneer, he has remained active in the industry and has helped to move it forward through to the present day.

Lodge says in the last few years the world has moved on to embrace wind energy as a very important component of the world's energy supply. In fact it is the world's fastest growing and least expensive new supply of utility electricity supply.

"The situation is imminent that the oil age in which we have been in now for about a century is coming to an end. It's kind of unique. We didn't leave the Stone Age because we ran out of stones; we progressed. We're going to run out of the oil age because we ran out of oil. We have to move on to something else," says Lodge.

"And that's going to be renewable and we're never going to run out of that because by definition it's going to be there."

Dollars in the wind

Entegritty Wind Systems of P.E.I. goes international

Let it blow could be the slogan for Entegritty Wind Systems Inc.

In the few short years since this Charlottetown company set up shop on Prince Edward Island, sales have soared from two in its inaugural 2004 year to more than 100 this year.

That number is expected to double in 2009.

"Every year since, we've increased," says Carmen MacIntyre, office manager of Entegritty Wind Systems, which has wind turbines as close as Superior Sanitation in Charlottetown and as far away as the United Kingdom.

The company has its head office in Charlottetown, a plant in Albany that produces the blades and a manufacturing partnership with a company in Quebec.

"Probably about 90 per cent of our machine is manufactured in Canada," MacIntyre says.

Because the majority of Entegritty's sales is in the United States, the company also has a satellite sales and marketing office in Colorado.

One big overseas project is a five-wind turbine installation in the city of Dublin, Ireland, in the new Father Collins Park.

"Some land was given to the city to provide a green space, because their city like most cities is expanding rapidly, so they want to preserve some green space," MacIntyre says.

"The park is fully green. There are going to be wind turbines and heat pumps and solar and recycled grey water and things like that. So five of our wind turbines are going to be sitting in the middle of the manmade lake with spotlights on them."

Don't expect an Entegritty wind turbine to pop up in your residential backyard anytime soon. These commercial-scale wind turbines (50KW) are best suited for institutions or facilities that use roughly 150,000 kilowatt-hours per year. The average household would use between 6,000 and 12,000 kilowatt-hours annually.

Some examples of Entegritty customers include a hybrid car dealership in Ontario, a calendar manufacturer in Illinois, an elementary school in Durham, England and in the future large truck stops in the United States.

Many of the commercial companies are also using their wind turbine as a towering eco-friendly public relations (PR) tool.

And the spinning blades of an Entegritty wind turbine are in plain sight to see for the thousands of people who pass by Superior Sanitation in Charlottetown in the run of a day.

"We've done quite a few things that would be environmentally friendly and energy saving and this is one of our options that we choose to go to," says Superior Sanitation president Ed Clark.

"Basically it's a permanent structure that gives you economic feedback with dollars saved in power costs plus it still is an advertising tool that is there 24-7."

The ballpark cost for an installed 100-foot lattice-style Entegritty tower machine rings in somewhere around the \$200,000 mark, a monopoly is about \$250,000.

"Payback wise without any assistance (government grants and such) at today's general service retail rate you can see a payback anywhere between seven and 14 years, depending on where you are and what you're paying for electricity," MacIntyre says.

"The lifespan of the machine is 30 years so they will pay themselves off before their half-life. Maintenance is minimal on them."

With green credits becoming more of a tradable commodity in the United States, green power generated from wind turbines becomes even more attractive.

Oddly enough with its head office in Charlottetown, Entegrity cannot at present take advantage of its own energy-producing wind turbines.

Height restrictions in city's zoning laws do not allow wind turbines of an industrial scale, unless they are in the industrial commercial zone.

"In the next 20 years I definitely see the acceptance of the (wind energy) technology. You're going to see much more acceptance in the community as well. . . ." MacIntyre says.

"It's all about perception. If people get use to something, then they're no longer afraid of it."



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